Mobile Integrated Health Care and Community Paramedicine: An Emerging Emergency Medical Services Concept

Bryan Y. Choi, MD*; Charles Blumberg, BS; Kenneth Williams, MD

*Corresponding Author. E-mail: bchoiemdoc@gmail.com, Twitter: @bchoiemdoc.

Mobile integrated health care and community paramedicine are models of health care delivery that use emergency medical services (EMS) personnel to fill gaps in local health care infrastructure. Community paramedics may perform in an expanded role and require additional training in the management of chronic disease, communication skills, and cultural sensitivity, whereas other models use all levels of EMS personnel without additional training. Currently, there are few studies of the efficacy, safety, and cost-effectiveness of mobile integrated health care and community paramedicine programs. Observations from existing program data suggest that these systems may prevent congestive heart failure readmissions, reduce EMS frequent-user transports, and reduce emergency department visits. Additional studies are needed to support the clinical and economic benefit of mobile integrated health care and community paramedicine. [Ann Emerg Med. 2016;67:361-366.]

A **podcast** for this article is available at www.annemergmed.com.

0196-0644/$-see front matter
Copyright © 2015 by the American College of Emergency Physicians.
http://dx.doi.org/10.1016/j.annemergmed.2015.06.005

INTRODUCTION

"Mobile integrated health care and community paramedicine" is the current term for a new model of community-based health care delivery that primarily uses emergency medical services (EMS) personnel and systems.[1] Mobile integrated health care and community paramedicine programs address wellness, prevention, care for the chronically ill, postdischarge care, social support networks, and increasing medical compliance for a local population. The model's providers, often called community paramedics if trained at that level, perform assessments and interventions on an outpatient basis but usually do not provide acute transport.[1] First conceived of in programs attempting to expand access to services for underserved rural populations, the delivery system is one potential way to improve health system engagement with the community.

DATA SOURCES

To our knowledge, there are few published peer-reviewed scientific descriptions of mobile integrated health care and community paramedicine. We identified information on it through a comprehensive search of the PubMed literature database, using the following key words: "MIH/CP," "mobile integrated health care," "community paramedicine," "community paramedic," and "home health care." White papers and consensus conference proceedings published by the National Association of State EMS Officials and the National Association of EMS Physicians provided additional references. Finally, we also included news articles, expert opinion pieces, and preliminary data from current mobile integrated health care and community paramedicine initiatives.

HISTORY OF MOBILE INTEGRATED HEALTH CARE AND COMMUNITY PARAMEDICINE

The first well-studied mobile integrated health care and community paramedicine programs in the United States were designed to address rural health care needs. Compared with residents in urban communities, rural community residents tend to have insufficient access to health care and exhibit worse health outcomes.[2] There are fewer physicians and higher rates of tobacco use, infant and adolescent mortality, self-reported adult obesity, and substance abuse.[3,4] Injuries sustained in rural areas also tend to be more severe than those sustained in urban settings.[5] With only 14% of practicing primary care physicians providing services to the 25% of the nation's population who reside in rural areas,[6] community leaders and EMS providers developed early mobile integrated health care and community paramedicine programs to provide improved access to health care in these communities.

One well-documented early community paramedicine program originated in 1992 as a consortium effort of the University of New Mexico School of Medicine Department

of Emergency Medicine, the New Mexico Department of Health, and the rural town of Red River.[7] The consortium created a pilot program featuring expanded EMS services to fill health care gaps in a town whose closest hospital was 60 minutes away.[8] The program was funded with $394,000 in federal grant money and backed by legislation passed by the state senate. The program featured 78 approved protocols and a 980-hour training program administered by the University of New Mexico EMS academy. Provider scope of practice was expanded to cover chronic disease surveillance, community health education, and prevention. Providers were also authorized to administer medications, including oral antibiotics, and perform simple procedures such as suturing. Although the program generated considerable initial publicity, interest in it eventually waned, with only 1 of the original 16 expanded-EMS providers remaining in practice in 1997. The program voluntarily ceased operations in 2000.[7]

Despite the failure of the Red River program, federal and state agencies issued statements supporting the integration of EMS with community health-focused initiatives, particularly in rural areas. In 1996, the US Department of Transportation EMS Agenda for the Future called for integrating EMS into the community and providing services typically associated with primary care, including preventive care, community health interventions, and outpatient management of chronic illness.[9] This was followed by a 2004 US Department of Health and Human Services guide for service chiefs calling for community paramedicine to apply specifically to rural populations, and a 2010 Joint Committee on Rural Emergency Care strategic plan calling for community paramedics to receive training in general primary and preventive care.[10,11] More broadly, a 2012 consensus conference of the National Association of State EMS Officials formally defined community paramedicine as "an emerging healthcare delivery model that increases access to basic services through the use of specially trained emergency medical service…providers in an expanded role."[12]

The concept of mobile integrated health care practice was also introduced in 2012 as a proposed expansion of community paramedicine into multiple nonrural settings.[13] The strategy included community paramedics as one of its many components, along with primary care offices, hospices, Visiting Nurse Association services, social services, and other home health care providers.[13,14] The model also called specifically for community paramedics to play a larger role in reducing the need for patient transport and hospital readmissions.

In 2014 at the National Association of EMS Physicians annual meeting, a consensus panel unified mobile integrated health care practice and community paramedicine under the term "mobile integrated health care and community paramedicine." In addition, the term "community paramedic" was updated to "community paramedicine provider" to reflect the fact that not all providers were paramedics.[12]

OUTCOMES OF MOBILE INTEGRATED HEALTH CARE AND COMMUNITY PARAMEDICINE PROJECTS

There have been few data published on the safety, cost-effectiveness, and feasibility of mobile integrated health care and community paramedicine programs.[15] Outcomes data will likely result from existing and pilot programs, many of which have specifically integrated evaluation components.

Most data on mobile integrated health care and community paramedicine clinical outcomes and cost-effectiveness originate from the MedStar Mobile Health Program in Dallas and Fort Worth, TX.[16] MedStar's efforts focus on 2 areas: community health practice and the congestive heart failure Readmission Prevention Program. Patients enrolled in the community health practice receive a series of home visits provided by MedStar community paramedicine providers for education in the management of chronic medical conditions, as well as reinforcement of existing primary and specialty care network resources. If patients require 911 response, a community health practice practitioner is also dispatched to the call to ascertain whether transport to an emergency department (ED) can be safely deferred.[17] From January 2010 to February 2015, 146 patients avoided 1,893 transports to the ED because of 911 calls, resulting in a Medicare charge avoidance of $21,627 and payment avoidance of $5,536 per patient.[18]

Conducted in a fashion similar to that of the community health practice program, the CHF readmission prevention program targets CHF patients in concert with local cardiologists.[19] Compared with the national 2013 median risk-standardized readmission rate of 23%,[20] the rate for MedStar was 16.3% for the enrolled participants, a Medicare charge avoidance of $30,343 and payment avoidance of $7,620 per participant from October 2013 to February 2015.[21] Participants also reported an overall patient satisfaction score of 4.9 out of 5.[22]

Smaller North American urban and rural mobile integrated health care and community paramedicine programs have also provided outcomes data. A rural Nova Scotia program on Long and Brier Islands reduced ED visits by 23% in 2002 and 2003.[23] In Raleigh, NC, a program attempted to divert patients who were determined not to need ED level of care to the facility best suited to their specific health or social needs. The program triaged more than 300 patients to alternate treatment facilities such as

Download English Version:

https://daneshyari.com/en/article/3228424

Download Persian Version:

https://daneshyari.com/article/3228424

Daneshyari.com